



Percival Scientific Teams With Indigo Agriculture
to Improve Food Production

CASE STUDY

Indigo Agriculture's Vision for a Better Future

Indigo Agriculture has always believed the largest impact on the entire world's food production will come from a microscopic source. The cutting edge startup company, launched in 2016 and headquartered in Boston, is now an industry leader in the emerging field of plant microbiome study. Focusing on microbes such as bacteria and fungi that have evolved in a mutually beneficial relationship with plants over billions of years, Indigo's mission is to "improve grower profitability, environmental sustainability and consumer health through the use of natural microbiology and digital technologies."

The Initial Building Project

Phase one of Indigo's launch involved the construction of a 30,000-square-foot office and research laboratory facility that would include tissue culture chambers to grow the small plants critical to the company's work using microbes to nourish and strengthen plants and improve food health and production in sustainable and responsible ways.

Selecting the Best Chamber Manufacturer

Already known for their quality products and high level of customization by the Indigo team, Percival Scientific was one of four vendors selected to receive a request for proposal for the plant tissue culture chambers.

What followed was described by Indigo's construction manager as "a daunting and very meticulous process of exhaustive analysis that involved ongoing questioning of the vendors, as well as careful comparisons of the firms' technical capabilities, past experience and price points." When all was done, Percival Scientific was the clear choice and was best suited to meet Indigo's needs.

A Tight Deadline and Many Changes

As with all startups, particularly those having raised large sums of venture capital, time was of the essence. The project not only required a rapid response to the proposal process but also a quick delivery of the chambers once the purchase was made.

Percival was "extremely responsive" during the proposal evaluation process and "they were particularly quick to respond to Indigo's ongoing requests for supplemental pricing information as specifications changed during the procurement effort," remarks Indigo's representative.

Due to Percival's ability to build environmental control rooms to any size and configuration, requests for changes and customizations did not delay the project. "Percival's staff were very open and were very collaborative," says the representative, an attitude that confirmed Indigo made the right decision to choose Percival as their partner.

Customized Tissue Culture Chambers

Within the tight time frame, Percival met all specification changes and delivered two CU-1014L3 plant tissue culture walk-in chambers for Indigo's initial facility. They are uniquely designed to supply uniform airflow for each shelf while also minimizing condensation on petri dish lids. This is achieved by forcing air down behind a false wall. An air diverter is located beneath each shelf that directs a portion of the air from behind the false wall to flow under the shelf. With the turn of a knob, the diverter can be adjusted to maintain uniform conditions from shelf to shelf.

The air is then vertically diffused through a screen to the grow environment. This allows the conditioned air to be delivered slowly and consistently across each shelf and pulls heat created by the light fixtures up and away from the shelves. The air diffuser also acts as an insulated barrier between the shelf and the underlying light fixture, which helps to reduce condensation on the dish lids by eliminating heat transferred to the media. Each shelf is also designed to slide out for easier access to plant tissue cultures along the back of the shelf.

Percival also engineered Indigo's CU-1014L3's to provide multi-purpose environments. The chambers contain fluorescent lighting in an open loop dimmable configuration with a maximum output of approximately 240 μ moles. This gives researchers the ability to use the chambers for the beginning stages of Arabidopsis and other lower light varieties in addition to applications for tissue culture. The 24-inch grow height adds to the versatility of the chambers.

CASE STUDY



Continuing Support

Not only did Percival's chambers prove to be the best choice for Indigo Agriculture's research, but the responsive, collaborative service that Percival provided the company when they began building confirmed that Percival Scientific deserved their business.

As Indigo has developed into one of the largest and most successful capital-raising startups in the industry of agricultural microbes, Percival continues to make themselves available for service or consultation regarding any of Indigo's evolving needs.

For more information on Percival Scientific plant tissue culture chambers or any other chamber and incubators, please visit www.percival-scientific.com, call 1.800.695.2743 or email info@percival-scientific.com.